# SCHEDULE AT A GLANCE (Subject to change)

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<tbody>
<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Committee Meetings</td>
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## SATURDAY, JULY 14

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<th>Time</th>
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<tbody>
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<td>Registration Hours</td>
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<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Committee Meetings</td>
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<tr>
<td>8:00 a.m.–12:00 p.m.</td>
<td>Pre-Conference Workshop</td>
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## SUNDAY, JULY 15

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<thead>
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<th>Time</th>
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<tbody>
<tr>
<td>7:00 a.m.–6:30 p.m.</td>
<td>Registration Hours</td>
</tr>
<tr>
<td>7:00 a.m.–6:00 p.m.</td>
<td>Committee Meetings</td>
</tr>
<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Pre-Conference Workshops</td>
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<tr>
<td>2:00 p.m.–7:00 p.m.</td>
<td>Bookstore Hours</td>
</tr>
<tr>
<td>5:30 p.m.–7:00 p.m.</td>
<td>Welcome Reception in Exhibit Hall</td>
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## MONDAY, JULY 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m.–4:30 p.m.</td>
<td>Registration and Bookstore Hours</td>
</tr>
<tr>
<td>7:30 a.m.–9:00 a.m.</td>
<td>Plenary Breakfast and Keynote Speaker</td>
</tr>
<tr>
<td>9:00 a.m.–4:00 p.m.</td>
<td>Exhibit Hall Hours</td>
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<tr>
<td>9:00 a.m.–10:00 a.m.</td>
<td>Networking Break in Exhibit Hall</td>
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<tr>
<td>10:00 a.m.–11:30 a.m.</td>
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<tr>
<td>11:30 a.m.–1:00 p.m.</td>
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<tr>
<td>1:00 p.m.–2:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
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<tr>
<td>2:30 p.m.–4:00 p.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>4:00 p.m.–5:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
</tbody>
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## TUESDAY, JULY 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m.–6:00 p.m.</td>
<td>Registration Hours</td>
</tr>
<tr>
<td>7:00 a.m.–4:30 p.m.</td>
<td>Bookstore Hours</td>
</tr>
<tr>
<td>7:30 a.m.–4:30 p.m.</td>
<td>Exhibit Hall Hours</td>
</tr>
<tr>
<td>7:30 a.m.–8:30 a.m.</td>
<td>Continental Breakfast in Exhibit Hall</td>
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<td>7:30 a.m.–8:30 a.m.</td>
<td>Women in Engineering Breakfast</td>
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<tr>
<td>8:30 a.m.–10:00 a.m.</td>
<td>Concurrent Technical Sessions</td>
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<tr>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Networking Break in Exhibit Hall</td>
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<tr>
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<tr>
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<td>Bechtel Lecture</td>
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<tr>
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<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>3:30 p.m.–4:30 p.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>4:30 p.m.–5:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
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<tr>
<td>6:30 p.m.–9:30 p.m.</td>
<td>Special Event (off-site) – Centre Island</td>
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</table>

## WEDNESDAY, JULY 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m.–1:00 p.m.</td>
<td>Registration Hours</td>
</tr>
<tr>
<td>7:30 a.m.–8:00 a.m.</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>8:00 a.m.–9:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>9:30 a.m.–10:00 a.m.</td>
<td>Networking Break</td>
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<tr>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>12:30 p.m.–6:00 p.m.</td>
<td>Tours/Recreational Activities</td>
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Revitalizing Global Underground Utility Infrastructure | 2
Letter from UESI President

On behalf of the Utility Engineering & Surveying Institute (UESI) of the American Society of Civil Engineers (ASCE), welcome to the Pipelines 2018 Conference in Toronto, Ontario. We are excited to be hosting our first Pipeline Conference outside of the boundaries of the continental U.S. This location dovetails nicely with the reorganization of ASCE’s Regional Boundaries to include the Canadian Provinces. The Pipelines 2018 conference is a UESI premier technical event. Utilities and Survey have worldwide application, and UESI was developed to be that worldwide leader in educational development and opportunities for professionals, manufacturers, and technologists to contribute their collective knowledge to make the world a better place. As an attendee of this conference for over 20 years, I can say with assurance that you will not be disappointed in the quality of the presentations and peer discussions. Finally, to those attendees that are not currently a member of ASCE or are UESI-only members, please stop by the UESI booth while at the conference and learn more about UESI and how you can contribute. I look forward to seeing you there.

James H. Anspach PG (r), Dist. M.ASCE
ASCE UESI President 2018
Global Senior Principal,
CARDNO

Conference Steering Committee

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Lead Associate
McMillen Jacobs Associates

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INTERNATIONAL CHAIR
Sandra Rolfe-Dickinson, P.E., C.Eng. (UK)
Senior Technical Consultant, Technical Director, Pipeline Technologies, Pipetechnics Ltd.

ASCE SPONSORSHIP AND EXHIBIT SALES
Sean Scully
Manager, Sponsorship and Exhibit Sales

UTILITY ENGINEERING & SURVEYING INSTITUTE (UESI) OF ASCE
John Segna, P.E., F.ASCE
Director, UESI

Susan Reid, Aff.M.ASCE
Manager, UESI

On behalf of the Conference Steering Committee, we would like to welcome one and all to Toronto, Canada and to the Utility Engineering and Surveying Institute (UESI) Pipelines 2018 Conference. Toronto is the largest city in Canada, the fourth largest city in North America, and is a premier destination. Its rich diversity offers boundless visitor experiences and learning opportunities.

In its 38th year, this Conference has continued to provide a great forum where pipeline practitioners can gather to exchange ideas and get revitalized. The unique attribute for the 2018 Conference is that it is the first international conference under the auspices of UESI to be held in Canada. We anticipate close to 1000 attendees from our global pipeline community.

In keeping with this year’s Conference theme of “Revitalizing Global Underground Utility Infrastructure”, we have developed a strong program with more than 180 peer-reviewed papers, poster sessions and panel discussions spread over 8 tracks, plus 6 focused pre-conference workshops. The presentations will cover various aspects of pipelines, utilities, surveying and geomatics. We expect strong participation of exhibitors to complement the technical sessions, and given past success, the program is designed to allow ample time to visit the exhibit hall.

The Conference will kick-off officially on Sunday evening with a networking reception in the exhibit hall. A plenary breakfast featuring Michael Cook, the photographer who turned Toronto’s sewers into art, will precede the technical sessions on Monday. Prior to the start of the technical sessions on Tuesday, we are introducing this year The Women in Engineering Breakfast. At Tuesday’s luncheon, we will recognize and honor the contributions of two dedicated professionals in our industry by bestowing the ASCE Stephen D. Bechtel Pipelines Engineering Award and the UESI Pipelines Division Award of Excellence. The luncheon will also showcase commentator/author Rex Murphy as the keynote speaker.

There will be numerous opportunities to network during the catered functions in the exhibit hall, dinner Tuesday evening at Centre Island located a short ferry ride in Toronto Inner Harbor, and golf on Wednesday at the conclusion of the conference. The attendees will also have the opportunity to tour the City’s John Street Pumping Station and the Energy Transfer Station that houses Enwave’s Deep Lake Water Cooling system which is the world’s largest lake source cooling system.

Come to Toronto and join your peers and be part of the Revitalizing Global Underground Utility Infrastructure community. In addition, bring home with you fond memories of one of the most cosmopolitan cities in the world.

Cheers and see you in Toronto!
**PRE-CONFERENCE WORKSHOPS**

**SATURDAY, JULY 14**

**LARGE DIAMETER PIPELINE FORUM**
8:00 a.m.–12:00 p.m. | Dominion North

The Large Diameter Pipeline Owners Group is a consortium of large diameter pipeline owners, currently totaling over 80 members, which work together and discuss the operation, maintenance, and management of their large diameter pipe systems. The forum will discuss condition assessment and monitoring related to large diameter pipeline systems. Presenters will include owners, researchers, and consultants. The session will also include an owner’s roundtable discussing challenges and solutions relating to the asset management of large diameter pipelines.

**Speakers:** Nathan Faber, John Plattsmeyer, Balvant Rajani, Steve Simon, Serge Martin Paul, Mike Zantling

**Registration Fee:** Onsite: $245

**Number of PDHs:** 4 hrs

**Sponsored by:**

**SUNDAY, JULY 15**

**RIGHT-OF-WAY CONSIDERATIONS IN PIPELINE ROUTING**
8:00 a.m.–12:00 p.m. | Dominion South

Pipeline routing is an iterative process, which starts with a wide “corridor of interest” and then narrows down to a more defined route at each design stage as more data is acquired, to a final right-of-way (ROW). Pipeline corridors should initially be selected to avoid key constraints. The route can then be further refined, to avoid additional constraints. The aim is to achieve an economically and environmentally-feasible route for construction. Co-locating new facilities within the easement of existing facilities is particularly challenging because the interests of the existing easement holder may not be aligned with those of the new facility’s owner.

**Speakers:** Ana Rausch, Andrew Craig, Joshua Rogers, Hunter Jurney

**Registration Fee:** Onsite: $245

**Number of PDHs:** 4 hrs

**UPCOMING MOP ON SEISMIC DESIGN OF BURIED WATER & WASTEWATER PIPELINES**
1:00 p.m.–5:00 p.m. | Dominion North

Buried water & wastewater pipeline infrastructure is a major component of lifeline infrastructure serving communities around the world. In regions with increased seismic activity, these essential facilities are vulnerable to damage from seismically induced geo-hazards. Despite this danger, national building codes and design standards for buried pipelines do not currently address the seismic design of buried pipelines adequately. Recognizing this need, ASCE’s Pipeline Location and Installation Technical Committee, in collaboration with ASCE’s Infrastructure Resilience Division (IRD), has formed a task committee which is developing a new manual of practice (MOP) on Seismic Design of Buried Pipelines. In this workshop, speakers will present key technical components of the proposed MOP and provide opportunities for attendees to offer feedback.

**Speakers:** Sri Rajah, Craig Davis, William Heubach, Roberts McMullin, Mike Dadik, Yogesh Prashar, Mike McReynolds, Brad Wham

**Registration Fee:** Onsite: $245

**Number of PDHs:** 4 hrs

**SAVE CONSTRUCTION TIME AND MONEY WITH SUBSURFACE UTILITY ENGINEERING (SUE)**
1:00 p.m.–5:00 p.m. | Dominion South

Since 2002, ASCE 38 has been the standard for portraying existing utilities on documents and defining levels of quality and reliability for utility data. This workshop will discuss the history of this standard and upcoming changes in the soon-to-be released update, application of SUE on a large case study, owners’ perspective on good utility data, and how the ASCE 38 standard relates to the Department of Transportation’s SHRP2 utility solutions.

**Speakers:** Mark Knight, Lawrence Arcand, Jamie Bradburn, Paolo Masero

**Registration Fee:** Onsite: $245

**Number of PDHs:** 4 hrs

**MONDAY, JULY 16**

**PLENARY BREAKFAST, WELCOME, AND KEYNOTE PRESENTATION**
7:30 a.m.–9:00 a.m. | Grand Ballroom

Join us for the introductory event of the 2018 Pipelines Conference! Start the morning with a welcome from a city of Toronto official and Robin A. Kemper, PE, LEED AP, F.SEI, FASCE, followed by the Keynote Speaker, Michael Cook. Don’t miss the exceptional opportunity to fuel up for a day of learning with friends and colleagues.

**Keynote Speaker:**

Jaye Robinson is a Toronto City Councillor for Ward 25 – Don Valley West and the City of Toronto’s Chair of Public Works and Infrastructure Committee. She oversees a $2 billion portfolio that includes Transportation Services, Toronto Water, Solid Waste Management and Engineering and Construction Services. As Chair of Public Works, Jaye continues to push for greater resiliency in our water infrastructure by improving service capacity and preparing for extreme cold weather conditions. She has also moved numerous motions to increase funding and accelerate significant infrastructure projects, such as the rehabilitation of the Don River as a part of the City of Toronto’s Wet Weather Flow Master Plan. Jaye remains focused on innovative, fiscally sound solutions to Toronto’s goals and priorities – moving our city forward through consensus and clear, evidence-based decision making.

**Keynote Speaker:**

Robin A. Kemper, PE, LEED AP, F.SEI, FASCE and ASCE President-elect, has over thirty-five years of diverse and extensive structural engineering experience in design, analysis, and forensics, focused mainly on buildings. Robin currently is a Risk Engineer with Zurich North America. She works for both the Professional Liability and Construction Properties Risk Engineering Groups, providing technical support to construction project policies, developing best practices, and investigating losses on construction projects. Robin has a passion for Engineering Ethics and since 2011, in her spare time, Robin has given over 20 presentations to various engineering groups. Robin is a licensed Professional Engineer in six jurisdictions, and a Fellow of both ASCE and the ASCE Structural Engineering Institute. She is currently a member of the Civil Engineering Industrial Advisory Boards for Rutgers University and the College of New Jersey. Robin has been recognized for her service to ASCE throughout her career. Her most recent recognitions are the 2013 William H. Wisely American Civil Engineer Award (a National award), and the 2015 ASCE New Jersey Section Civil Engineer of the Year.
Michael Cook is a Canadian researcher, underground explorer, landscape architect and heritage consultant. In 2015, he was named one of Canada’s greatest modern explorers by Canadian Geographic magazine for his work to reveal the unseen infrastructure of Toronto and other cities. His photography has been shown in special public exhibitions for Toronto’s CONTACT Photography Festival and for Doors Open Toronto, featured in Maclean’s magazine, and published internationally in a variety of books, periodicals and online venues.

In his work on infrastructure, Cook emphasizes the value of public attention and understanding of the systems that allow our cities and society to function. By revealing the physical scale, material reality and geographic presence of otherwise hidden infrastructure, his photographs and writing encourage informed public engagement with the history and contemporary challenges of water, wastewater and power. Rather than presenting an obstacle to project success or operational management, Cook suggests that an interested public is one that is better-positioned to support system expansion and renewal, tolerate disruptions, and provide more valuable input to planners and managers. Cook will present stories from his own underground experiences—from Toronto’s historic Garrison Sewer to the famed hydroelectric tunnels at Niagara Falls—and review cases of public engagement with subsurface infrastructure from around the world.

Included in Full, Speaker, Moderator, Municipal, Student, and Monday Daily registration rates.

Additional tickets: $45

EXHIBIT HALL OPEN
9:00 a.m.–4:00 p.m. | Osgoode/Sheraton Hall

NETWORKING BREAK IN EXHIBIT HALL
9:00 a.m.–10:00 a.m. | Osgoode/Sheraton Hall

Sponsored by: SYNTEC

CONCURRENT TECHNICAL SESSIONS
10:00 a.m.–11:30 a.m. | See room assignments on page 8.

EXHIBIT HALL LUNCH
11:30 a.m.–1:00 p.m. | Osgoode/Sheraton Hall

Enjoy lunch as you tour this year’s exhibit hall, meet exhibitors, and learn about the exciting new developments and products in the pipelines industry.

Included in Full, Speaker, Moderator, Municipal, Student and Monday Daily registration rates.

Additional tickets: $55

Sponsored by: Northwest Pipe Company

CONCURRENT TECHNICAL SESSIONS
1:00 p.m.–2:30 p.m. | See room assignments on page 9.

NETWORKING BREAK IN EXHIBIT HALL
2:30 p.m.–4:00 p.m. | Osgoode/Sheraton Hall

Sponsored by: Chicago Concrete Pressure P

POSTER PRESENTATIONS
Posters available for viewing from Sunday, July 15 at 6:00 p.m. through Tuesday, July 17 at 4:30 p.m. In the Grand Ballroom Foyer Presenters will be available for questions on Monday, July 16 from 3:00 p.m.–4:00 p.m. and Tuesday, July 17 from 3:30 p.m.–4:30 p.m.

CONCURRENT TECHNICAL SESSIONS
4:00 p.m.–5:30 p.m. | See room assignments on page 10.

TUESDAY, JULY 17

EXHIBIT HALL OPEN
7:30 a.m.–4:30 p.m. | Osgoode/Sheraton Hall

CONTINUOUS BREAKFAST IN EXHIBIT HALL
7:30 a.m.–8:30 a.m. | Osgoode/Sheraton Hall

Sponsored by: CHEMINE

WOMEN IN ENGINEERING BREAKFAST AND PANEL DISCUSSION
7:30 a.m.–10:00 a.m. | Grand West

Breakfast will precede the Women’s Forum and will provide an excellent opportunity for networking with female colleagues from across the industry. The Women in Engineering Panel Discussion will feature a guided discussion covering a wide array of topics tailored for women professionals in the water & wastewater industry. Tips, stories and guidance on day-to-day interactions, how to manage challenging situations and achieving your career vision will be explored. We are honored to be joined by our moderator, Anna Pridmore, and a group of esteemed panelists which includes:

- Robin Kemper – ASCE President-Elect
- Therese Kline – Michigan DOT
- Marlee Frazen – DC Water
- Bethany McDonald – Black & Veatch
- Stephanie Darr – First Energy

We invite and encourage all women attending Pipelines – from young members to seasoned veterans – to join us to for this groundbreaking morning session.

Sponsored by: CHEMINE

CONCURRENT TECHNICAL SESSIONS
8:30 a.m.–10:00 a.m. | See room assignments on page 11.

NETWORKING BREAK IN EXHIBIT HALL
10:00 a.m.–11:30 a.m. | Osgoode/Sheraton Hall

Sponsored by: CIMAT

AWARDS LUNCHEON
11:30 a.m.–1:00 p.m. | Grand Ballroom

Please join us in celebrating the achievement by the winners of the 2018 Stephen D. Bechtel Pipeline Engineering Award and the ASCE Pipeline Division Award of Excellence. This annual awards luncheon will include a State of the Division address and conclude with a keynote speech by our guest of honor, Mr. Rex Murphy.

2018 STEPHEN D. BECHTEL PIPELINE ENGINEERING AWARD

Established by the ASCE Board of Direction in 1970, this award recognizes outstanding achievements in pipeline engineering. The Bechtel Foundation donated funds to support the award in honor of contributions made by Stephen D. Bechtel. The award is made annually to an ASCE member who has made a significant contribution to the advancement of pipeline engineering in research, planning, design, or construction.

Randy Randolph, P.E., M.ASCE

Randy has over 30 years of experience in the design, construction and maintenance of dams, canals, pipelines, pumping plants, groundwater recharge projects and other associated facilities that are part of the Central Arizona Project (CAP). He managed the Engineering Department for 8 years and recently retired as the Director of Centralized Maintenance and Reliability Engineering. Pipeline work included the design, construction, inspection and repair of prestressed concrete, cast-in-place concrete and steel pipelines ranging in diameter from 6 feet up to 21 feet.

Register Now! Visit www.pipelinesconference.org
ASCE PIPELINE DIVISION AWARD OF EXCELLENCE
The ASCE Pipeline Division Award of Excellence was established in 1988 by the Pipeline Division. It is given to a Fellow, Member, or Associate Member of ASCE who is adjudged by the Executive Committee to have given outstanding continuous and conspicuous service to the profession, ASCE, and the Pipeline Division.

Victor E. Fernandez-Cuervo
Victor E. Fernandez-Cuervo, PE, CGC, ENV SP, F. ASCE


given technical topics to students and colleagues throughout the US and China. Victor has co-authored technical publications, most notably the article featured in the January 2018 edition of ASCE’s Civil Engineering magazine, and has formally presented on varying technical topics to students and colleagues throughout the US and China.

KEYNOTE PRESENTATION: REX MURPHY
Social Commentator, Editorialist & Distinct Canadian Voice

The one and only Rex Murphy is a trusted face and voice across Canadian media. His intellect and biting humour strike through the heart of profound political and social issues. Canadians are treated to weekly commentary from Rex on CBC’s The National along with his Saturday column in the National Post. He’s also acted as an editorial contributor to CBC Radio’s Definitely Not the Opera. For over 20 years he was the host and moderator of CBC Radio’s Cross Country Checkup. The show brought over one million listeners and, at times, 15,000 callers wanting to join in discussions.

As a speaker, Rex radiates intelligence and trustworthiness. His endearing style brings forth a sarcastic intellect and deep insight into issues affecting individuals and businesses. Audiences can expect to be simultaneously informed and entertained by Rex’s provocative commentary. He knows what makes Canadians tick, and what drives our political and social affairs. Rex makes us important, reminds us we have culture beyond hockey. Canadians are treated to weekly commentary from Rex across Canadian media. His intellect and biting humour strike through the heart of profound political and social issues.

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COMMITTEE MEETINGS

<table>
<thead>
<tr>
<th>COMMITTEE</th>
<th>DATE</th>
<th>TIME</th>
<th>MEETING ROOM</th>
</tr>
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<tbody>
<tr>
<td>UESI Pipeline Division</td>
<td>July 13, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>VIP Room (concourse level)</td>
</tr>
<tr>
<td>UESI Board of Governors</td>
<td>July 14, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>VIP Room (concourse level)</td>
</tr>
<tr>
<td>Seismic Design of Buried Pipelines Task Committee</td>
<td>July 14, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>Dominion South (2nd Floor)</td>
</tr>
<tr>
<td>Thrust Restraint Design for Buried Pipelines Task Committee</td>
<td>July 14, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>York (Richmond Tower)</td>
</tr>
<tr>
<td>Sustainable Design of Pipeline</td>
<td>July 14, 2018</td>
<td>9:00 AM–4:00 PM</td>
<td>Peel (Richmond Tower)</td>
</tr>
<tr>
<td>Pipeline Infrastructure Committee</td>
<td>July 14, 2018</td>
<td>1:00 PM–5:00 PM</td>
<td>Oxford (Richmond Tower)</td>
</tr>
<tr>
<td>Pipe Bursting Projects Task Committee</td>
<td>July 14, 2018</td>
<td>8:00 AM–12:00 PM</td>
<td>Norfolk (Richmond Tower)</td>
</tr>
<tr>
<td>Trenchless Installation of Pipelines (TIPS)</td>
<td>July 14, 2018</td>
<td>3:00 PM–5:00 PM</td>
<td>Chesnut (Richmond Tower)</td>
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<tr>
<td>AWWA Pipeline Rehabilitation Standards Committee</td>
<td>July 15, 2018</td>
<td>6:30 AM–8:00 AM</td>
<td>Peel Room (Richmond Tower)</td>
</tr>
<tr>
<td>Pipeline Location &amp; Installation Committee</td>
<td>July 15, 2018</td>
<td>8:00 AM–10:00 AM</td>
<td>York (Richmond Tower)</td>
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<tr>
<td>Task Committee on Pipe Bedding, Backfill, and Trench Shoring</td>
<td>July 15, 2018</td>
<td>8:30 AM–2:30 PM</td>
<td>Linden (Richmond Tower)</td>
</tr>
<tr>
<td>Inspecting Pipeline Installation (MOP 117) Task Committee</td>
<td>July 15, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>Maple (Richmond Tower)</td>
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<tr>
<td>Asset Management Division</td>
<td>July 15, 2018</td>
<td>8:00 AM–5:00 PM</td>
<td>Carleton (Richmond Tower)</td>
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<tr>
<td>Pressure Pipeline Design for Water &amp; Wastewater</td>
<td>July 15, 2018</td>
<td>9:00 AM–1:00 PM</td>
<td>Peel (Richmond Tower)</td>
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<tr>
<td>Standards Division ExCom</td>
<td>July 15, 2018</td>
<td>10:00 AM–12:00 PM</td>
<td>Oxford (Richmond Tower)</td>
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<td>UESI Younger Membership Engagement Committee</td>
<td>July 15, 2018</td>
<td>1:00 PM–2:30 PM</td>
<td>Cedar (Richmond Tower)</td>
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<tr>
<td>Journal Editorial (invitation only)</td>
<td>July 15, 2018</td>
<td>2:00 PM–5:00 PM</td>
<td>Oxford (Richmond Tower)</td>
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<tr>
<td>Task Committee on Direct Pipe &amp; Other Directional Microtunnel</td>
<td>July 15, 2018</td>
<td>2:00 PM–6:00 PM</td>
<td>Peel (Richmond Tower)</td>
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<tr>
<td>UESI Marketing &amp; Membership Committee</td>
<td>July 15, 2018</td>
<td>2:30 PM–4:00 PM</td>
<td>Cedar (Richmond Tower)</td>
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<tr>
<td>UESI Organizational Members (invitation only)</td>
<td>July 15, 2018</td>
<td>3:00 PM–5:00 PM</td>
<td>Norfolk (Richmond Tower)</td>
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<tr>
<td>Trenchless Magazine Editorial Advisory (invitation only)</td>
<td>July 17, 2018</td>
<td>10:00 AM–11:00 AM</td>
<td>Carleton (Richmond Tower)</td>
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Due to last minute requests, please double check meeting schedule updates as reflected in our live platforms:
The mobile app and the itinerary planner – https://www.eventscribe.com/2018/ASCE-Pipelines

POSTER PRESENTATIONS

Posters will be available for viewing from Sunday, July 15 at 6:00 p.m. through Tuesday, July 17 at 4:30 p.m. Presenters will be available for questions on Monday, July 16 from 3:00 p.m.–4:00 p.m. and Tuesday, July 17 from 3:30 p.m.–4:30 p.m.

Condition Assessment

- 386358 – Data Analytics for Performance Analysis of Water Pipeline Infrastructure Systems – Pruthvi Patel, Sunil Sinha, and Lee Sears
- 381544 – Gloss and Color Changes During Exposure of Polyurethane Coatings for Steel Water Pipes and Their Possible Link to Long-Term Corrosion Protection – Stuart Croll, Chinju Gu, Vinod Upadhyay, and Brent Keil
- 384992 – Criticality Model to Prioritize Sewer Pipelines Rehabilitation Decisions – Khalid Kaddoura and Tarek Zayed
- 385671 – Integrated Asset Management of Wastewater Collection and Treatment System – Hamed Mohammadiard, Mark Knight, and Andre Unger
- 386511 – Leakage Rate Uncertainty in Water Distribution Systems with Uncertain Demands: Impacts on Delivery Pressures – Vali Ghorbanian and Leila Ramezani

Construction and Rehabilitation

- 372776 – Defect-Based Risk Assessment Model for Prioritizing Inspection of Sewer Pipelines – Mohamed Elmasry, Tarek Zayed, and Alaa Hawari
- 382470 – Live Load Behavior of CIPP Liners in Elliptical Corrugated Steel Structures – Robert Cichocki and Ian Moore
- 389980 – Experimental Performance Evaluation of Seismic-Resilient PVCO Pipeline – Brad Wham, Blake Berger, and Thomas O’Rourke

Planning & Design

- 384808 – Improving the Modified Iowa Formula to Calculate the Deflection of Two Flexible Pipes Intersected into One Trench Under Live Loads – Ali Abbas, Felicite Ruddock, Rafid Alkhaddar, Glynn Rothwell and Robert Andoh
- 385258 – Two-dimensional Analysis of Invert Paving of Deteriorated Steel Culverts – Abdul Qaisim Fekrat and Teruhsia Masada
- 3835645 – Overview of the Geometric Parameters of a Press-Fit: Experimental and FEA Analysis of Steel Pipe Joint – Uro Campos, David Hall, John Matthews, Chris Morgan, Shaurav Alam, and Hadi Baghi

Multidiscipline

- 386290 – Geographic Information System (GIS) Data Visualization to Support Decision-Making for Water Pipeline Infrastructure Systems – Pururaj Singh Shekhawat and Sunil Sinha
- 386686 – Understanding, Performance, and Risk Management of Water Pipeline Infrastructure Systems – Ammol Vishwakarma, Sunil Sinha, and Lee Sears
- 386999 – Financial Modeling to Direct Asset Management of Buried Drinking Water Mains – Stephen Walling and Sunil Sinha

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### TECHNICAL PROGRAM – MONDAY, JULY 16

7:30 a.m.–9:00 a.m. Plenary Breakfast and Keynote Speaker
9:00 a.m.–10:00 a.m. Networking Break in Exhibit Hall
10:00 a.m.–11:30 a.m. Concurrent Technical Sessions

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#### SESSION A1
**DESIGN**

- Andrew Stanton
  - 386548 – New Transmission Watermain Specifications
  - Toronto Water
  - Henry Polvi, Prapan Dave, Chad Stephen, Stewart Dickson
  - 387863 – Challenges Associated with Designing Large Diameter Watermain Interconnection Chambers
  - Daniel Maskell, Jacek Pawlus, Wendy Tian
  - 381166 – Design Considerations for Dual 9-Inch Water Transmission Pipeline Pig Retrieval Station
  - Dorian French, David Miller, Jonathan Howard, Heidi Fischer

#### SESSION B1
**PLANNING**

- Christine Ellenberger
  - 386555 – Balancing Prescription and Innovation through Design-Build of a Major Recycled Water Conveyance Project
  - Jonathon Marshall, William Wong, Kyle Rorher, Ryan Sellman
  - 386088 – Breaking In: Planning Your Next Large Diameter Pipeline Shutdown
  - Justin Reeves, John Green

#### SESSION C1
**COATINGS**

- Jonathan Shirk
  - 381544 – Gloss and Color Changes During Exposure of Polyurethane Coatings for Steel Water Pipes and their Possible Link to Long Term Corrosion Protection
  - Stuart G. Croll, Chinju Gu, Vinod Upadhyay, Brent D. Keil
  - 379676 – Long Term Weathering Effects of Pipeline Coatings
  - Jose Pena, Jeffry Giddings, Ed Weaver, Matt Gaughan
  - 385454 – Accelerated Degradation Test on Coating Materials for Steel Pipes
  - Johnnatan Garcia-Ruiz, Shad M. Sargand, Teruhisa Masada

#### SESSION D1
**INSPECTIONS**

- Jerry Snead
  - 380553 – Application of Pipe Penetrating Radar for Asbestos Cement Pipe Condition Assessment
  - Csaba Ékes
  - 383375 – Assessing the Effectiveness of Acoustic Wall Thickness Technology Through Meta-Analysis
  - Balvant Rajani, Fred Pfeifer, Donald Shields
  - 386409 – Investigation of Acoustic Wave Propagation and Attenuation in a Damaged Buried Pipe
  - Ali Alavinasab, Ashkan Khalili, Marshall Kennedy, Cameron White

#### TRACK E
**Construction & Rehabilitation 1**

- Murat Engindeniz
  - 386993 – Pipeline Rehabilitation of the Orange County Feeder
  - Michael McReynolds, Amir Bidgoli, Carl Allen
  - 380947 – Deployment of an Airborne Polymeric Liner for Water Main Renewal
  - Brian Thorogood, Mark Knight, Randall J. Cooper
  - 387744 – Qualitative Assessment of Mechanical & Adhesive Service Connections for CIPP
  - George Bontus, Robert Kodadek, Michael Caputi, Rick Baxter, Ian Lancaster

#### TRACK F
**Construction & Rehabilitation 2**

- Duane Strayer
  - 385068 – Muskingum River Sanitary Sewer Force Main Project – Keys To A Successful HDD River Crossing From The Owner’s Perspective
  - Joseph Tucker, Martin Scanlan
  - 385286 – Avoiding Rush Hour with Utilizing Horizontal Directional Drilling
  - Clayton Barnard, Arthur Hartle, Marvin Lee, David Reuter
  - 386613 – Tarrant Regional Water District’s Asset Management of the Pipeline System Using GIS
  - Courtney Balbert, Lauren Tijerina, Jason Gehrig

#### TRACK G
**UES**

- Doug Jenkins
  - 386613 – Tarrant Regional Water District’s Asset Management of the Pipeline System Using GIS
  - Courtney Balbert, Lauren Tijerina, Jason Gehrig
  - Gregory Baird, Tad Radzinski
  - 385608 – The City of Montreal’s Experience with Pipeline Asset Management
  - Serge Martin Paul, Brian Brochu

#### TRACK H
**Multidiscipline**

- Mark Mihm
  - 387100 – Stopping and Re-Starting a $90 Million Pipeline Project is Harder Than it Looks
  - Randall Parks, James Light, Matt Turney, Michael Gossett
  - 389051 – Change Management of Key Staff During the Construction of Pipeline
  - Todd Warrix, Andrea Beymer
  - 386415 – Some of the Perils and Benefits When Design Responsibility is Moved Down the Process Toward Contractors and Manufacturers
  - Dennis Dechant

11:30 a.m.–1:00 p.m. Exhibit Hall Lunch
### TECHNICAL PROGRAM – MONDAY, JULY 16

#### 1:00 p.m.–2:30 p.m. Concurrent Technical Sessions

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**SESSION A2**<br>DEVELOPMENT<br>KYLE COUTURE<br>386864 – Keys to Successful Delivery of a Design-Build Pipeline<br>Gregory Harris, Janet Atkinson, Matthew Carpenter<br>389524 – Planning, Sequencing and Design of Canada’s Largest CSO Project<br>Daniel Cressman, Allan Rocas<br>385727 – Using the Alternative Delivery CMAR Method to Reline Two 12-foot Diameter Steel Pumping Plant Discharge Pipes and Discharge Manifold Piping<br>Jess Chism, Jim Geisbush


**SESSION C2**<br>Critical Watermain Infrastructure<br>PETER NARDINI<br>384866 – City of Hamilton Approach to the Management of Critical Watermain Infrastructure<br>Mike Zantingh<br>378619 – An Innovative Approach to Prioritization of the Miami-Dade Water and Sewer Department Water Transmission Mains<br>Robert Card, Olena Lytvyn<br>380748 – Forensic Evaluation of PCCP Failures: Green Bay Water Utilities Case Study<br>Bryon Livingston, Rasko Ojdrovic, Brian Powell

**SESSION D2**<br>DISTRIBUTION & TRANSMISSION MAINS<br>BRYON LIVINGSTON<br>379105 – Asset Renewal Forecasting For Water Main Replacement Program<br>Derek Gardels<br>386526 – The Region of Peel Makes “Set-and-Forget” a Thing of the Past When Managing Its Most Critical Buried Water Pipeline Anthony Parente, Heather Edwards, Allison Biggar<br>387117 – Water Main Criticality Scoring and GIS Centric Risk Mitigation: Applying GIS Spatial Analysis Tools and Apps for Greater Insight for High Risk Underground Infrastructure Gregory Baird, Dinorah Sanchez, Becky Tamashasky

**SESSION E2**<br>CFRP<br>AHMAD HABIBIAN<br>389776 – Middlesex Water Company 30-Inch Pipeline Upgrade under US Route 1<br>Jan Chwiedosiuk, David Tanzi, Anna Pridmore, Rasko Ojdrovic<br>385364 – Rehabilitation of the Burrungubugge Intake Shaft to Help Maintain One of the Civil Engineering Wonders of the Modern World<br>Scott Arnold, John de Groote, Brad Doudican

**SESSION F2**<br>WHAT IS IT?<br>MATTHEW DUFFY<br>381682 – Hurricanes, Conquistadors, and Endangered Species – The Unique Challenges of Under-Bridge Pipe Replacement on Florida’s Historic Coast<br>Grant Mistry, Christine Ellenberger, Scott Trigg<br>386068 – An Unexpected Reducer: Engineering A Pipe Connection Solution in the Field<br>Justin Reeves, John Green, Pierce Smith<br>386469 – Using Augmented Reality in Horizontal Directional Drilling to Reduce the Risk of Utility Damages<br>Samuel T. Arraratnam, Amir Fenais, Nikolas Smilovy

**SESSION G2**<br>DEEP THOUGHTS<br>MARK MIHM<br>385221 – Is it a Road Project or Water Main Project?<br>Cassandra Marshall, Moubin Al-Malla<br>390031 – The U.S. City’s Resilient Solution<br>Peter Dyke<br>361551 – Results of a Full-scale Fault-offset Test on a Glass Fibre Reinforced Polymer Pipe Buried in Dense Olivine Sand<br>Hendrik Williams, Amir Fam, Ian Moore

**SESSION H2**<br>Panel<br>384827 – Direct Bury of Large Diameter Pipe in a Tunnel<br>Shelly Hattan, Robert Fults, Charles Cameron

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2:30 p.m.–4:00 p.m. Networking Break in Exhibit Hall
## TECHNICAL PROGRAM – MONDAY, JULY 16

4:00 p.m.–5:30 p.m. Concurrent Technical Sessions

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### SESSION A3
HDD
STEVEN KRAMER

384550 – Abandoned Coal Mines Make for Challenging HDD Design and Installation
Jason Lueke, Amber McQuarrie, Patrick Bain, Renato Clementino, Niels Rasmussen, Tamer Elshimi, Chris Lamont

386619 – Negotiating and Executing High-Risk, Contractor-Proposed 30-Inch Horizontal Direction Drill along Colonial-Era, Historical Structure in Urban, Downtown Corridor
William Gibson, Tim Marsh, Mathew Francis

386245 – Planning for the Future: 30-Inch HDD FM Crossing of Halifax River
Blake Peters, Nichole Lloyd, Robert Tatum

### SESSION B3
DELIVERY
KEITH BUSHDIECKER

386861 – How DC Water Created in-House Design Team
William Elledge

388399 – Innovative Twin-Pipe Design to Serve Short-Term and Long-Term Operating Needs
Wendy Tran, Joseph Ng, Gian McDermott

387139 – Which Delivery Method is Best for Water and Wastewater Infrastructure Projects: A Preliminary Analysis of Alternative Project Delivery Methods
Mounir El Asmar, Samuel Aniraratnam

### SESSION C3
LARGE DIAMETER
CHRIS MACEY

385667 – An Updated Guide for Construction Inspection of Large Diameter Water Pipelines
Rusty Gibson, Charles Erwin, Ed Weaver

386979 – Large and Critical Valve Maintenance Strategies for Establishing System Control and Reliability
Britt Klein

### TRACK E
Construction & Rehabilitation 1
Murat Engindeniz

### TRACK F
Construction & Rehabilitation 2
Duane Strayer

### TRACK G
UES
Doug Jenkins

### TRACK H
Multidiscipline
Mark Mihm

## SESSION E3
LINING
DAVE CAUGHLIN

381865 – Eastern Parkway Water Transmission Main Rehabilitation – Slip-Lining Renews Critical 48-Inch Cast Iron Main along Historic Olmstead Parkway in Louisville, Kentucky
James Watterson, Jordan Carrier

386513 – North Charleston Sewer District’s Ashley Interceptor Sewer Rehabilitation by Cured-in-Place Pipe Methodology
James Reigart, Phillip Sexton

385140 – Benefits of Performance-Based Large Diameter Pipeline Rehabilitation
Samantha La Hée, Mark Mihm, Jeremy Koch, Art Tillberg

## SESSION F3
CONSTRUCTION
ERIC SCHEY

370962 – Design-Build Emergency Repair of 72-inch Aerial Sewer
Jeff Heidrick, Karine Papikian, David Oshel, Shawn Wilson

385435 – Pure Water Branched Subaqueous Diffuser Pipeline
Badri Badriyha, Kathy Haynes, Jeff Soriano

386332 – Baltimore Siphon Rehabilitation: Changing Conditions, Dynamic Solutions
Cece Nguyen, Jessica Weron, Pono Hanson

## SESSION G3
SHOW ME THE MONEY
ANDREW WILLIAMS

387121 – Fixing the O&M Budget with Asset Management to Create More Capital Debt Capacity for Pipe Projects
Gregory Baird, Lars Stenstedt

387811 – Cost, Risk, Performance: Icon Water’s Sewer Network Investment Optimisation
Andy Gibson, Sagar Khadka, Mark Engelhardt

Alnoor Allidina, Gary Thompson, Rose Hosseinzadeh

## SESSION H3
THINKING CAPS REQUIRED
AD SHATAT

393171 – DIGGS Does Pipelines
Allen Cadden

PANEL
386647 – Optimizing Utility Valuation Using Acoustic Condition Assessment Technologies
John Marciszewski, Anthony Festa
Women in Engineering Breakfast in Grand West

Continental Breakfast in Exhibit Hall

Concurrent Technical Sessions

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**SESSION A4**

Planning & Design – Jeffrey Shoaf

- 385933 – The Importance of Terrain Analysis for Pipeline Planning and Pipeline Asset Management
  - Dennis O’Leary, Bailey Theriault, Mark Nixon, Anne Sommerville
- 385601 – Not All Projects are Created Equal – the King County Mercer Enatai Project Goes from 945 Alternatives to One
  - James Chae, Sibel Yildiz, Grizelda Sarria

**SESSION B4**

Planning & Design – William Brick

- 372760 – Design Considerations for Water Supply Intakes on the Great Lakes
  - John Green
- 385720 – North Fork Siphon Condition Evaluation
  - Marshall Gibbons, Andy Romer, Christopher Macey, Blake Buehler, Donald Champenois

**SESSION C4**

Condition Assessment – Mike Larsen

- 385720 – North Fork Siphon Condition Evaluation
  - Marshall Gibbons, Andy Romer, Christopher Macey, Blake Buehler, Donald Champenois
- 386960 – Underwater Inspection and Imaging Technologies for Pipelines
  - Terence Browne, Roy Forsyth, Chris Hartzell, Shanon Chader

**SESSION D4**

Case Studies – James Steele

- 386216 – A Comparison of Technologies for a “One of a Kind” Pipeline: Condition Assessment of the 46-Inch Transmission Main in Grand Rapids, MI
  - Britton Evans, Bryan Livingston, Alex Fleet
- 387120 – Condition Assessment and Asset Preservation Rationalization for the St. Paul Regional Water Services (SPRWS) in St. Paul, MN
  - Christopher Macey, Marshall Gibbons, Dave Wagner, Rich Hibbard

**SESSION E4**

Case Studies – George Bontus

- 383983 – Rehabilitation Design for Old Brick Conduits
  - Yvesel Sever, Zachary Neukam, Jeremy K. Cawley
- 371111 – A Case Study on Design, Testing and Installation of Two Large Diameter Tunnel Liner Projects for the City of Los Angeles
  - Henry Bardakjian, Joel Olmos

**SESSION F4**

Tunneling – Duane Strayer

- 386872 – Large Diameter Tunnel, to Expedite Consent Decree Pipeline
  - Jeffrey Farnsworth, David Bennett
- 386834 – Innovative Steel Casing Pipe Installation Using Mechanical Interlocking Joints
  - Brent Keil, Bob Card, Trevor Gonterman

**SESSION G4**

Nature Calls – Henry Polvi

- 382061 – The Tree Amigos: Friendly Practices to Avoid, Minimize, and Mitigate Impacts to a Forested Wetland
  - Paul Dossset, Chris Bogert, David Flores, Todd Butler
- 387095 – Olfsted Flowline Seismic Retrofit
  - Mitchell Dabling, Cort Lambsom

**SESSION H4**

Women’s Forum – Ana Pridmore

The Women in Engineering Panel Discussion will feature a guided discussion covering a wide array of topics tailored for women professionals in the water & wastewater industry. We invite and encourage all women attending Pipelines – from young members to seasoned veterans – to join us to for this groundbreaking morning session.

- Robin Kemper, Therese Kline, Marlee Frazen, Bethany McDonald, Stephanie Darr

Networking Break in Exhibit Hall

Awards Luncheon

Bechtel Lecture

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### TECHNICAL PROGRAM – TUESDAY, JULY 17

#### 2:00 p.m.–3:30 p.m. Concurrent Technical Sessions

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**SESSION A5**
**DESIGN**
SHELLY HATTAN
386866 – Pipe Considerations for Deep St. Louis LMRDP CSO Tunnel Dewatering Pump Station
Cale Underberg, Jeffrey Gratzer, Rebecca Elwood, Patricia Pride
385799 – Design and Construction of the South Hartford CSO Tunnel
James Sullivan, Andrew Perham
385258 – Two-dimensional Computer Analysis of Deteriorated Steel Culverts Treated with Invert Paving
Abdul Qaium Fekrat, Teruhisa Masada

**SESSION B5**
**SEISMIC**
AMIN GANJIDOST
384423 – Creating a Seismic Resilient Pipe Network for Los Angeles
Craig Davis
383608 – Using API Line Pipe for Improved Seismic Performance of Water Transmission Mains
Mike Dadik, Wayne Grash, Mark Hovekost, Tim Collins
386906 – Experimental Results of Steel Lap Welded Pipe Joints in Seismic Conditions

**SESSION C5**
**CONDITION ASSESSMENT**
CHRISTOPHER HAECKLER
383681 – Automated Sewer Pipeline Inspection Using Computer Vision Techniques
Saeed Moradi, Tarek Zayed, Farzaneh Golikho
383495 – Condition Assessment of Piping at a Typical Wastewater Treatment Plant – How Risk-Based Planning can Assist Owners in Making Decisions on Condition Assessment Projects
Jase Villalobos, Noy Phannavong, Clinton McAdams
383302 – Remaining Life Determination and Risk Management Decision Support for Wastewater Pipes with External Inspections
Berk Uslu, Robert Abernethy

**SESSION D5**
**PCCP**
VEYSEL (FIRAT) SEVER
384253 – Hot Tapping Facilitates 36-Inch PCCP Condition Assessment as a Sustainable Approach to Save $15 Million in Immediate Maintenance Expenditures
Charles Herckis
386511 – Leakage Rate Uncertainty in Water Distribution Systems with Uncertain Demands: Impacts on Delivery Pressures
Vali Ghorbanian, Leila Ramezani
385671 – Integrated Asset Management of Wastewater Collection and Treatment System Hamed Mohammadi-Fard, Mark A. Knight, Andre Unger

#### 3:00 p.m.–4:30 p.m.

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**SESSION E5**
**LINING**
SRI RAJAH
387763 – Old Pipe, New Tricks: A Pragmatic Approach to Partially Deteriorated Pipeline Rehab Design
Adam Murdock, Dan Buonadonna, Brian Jacobs
385209 – Considerations for Management of a Large-Scale Watermain Relining Programme
Anthony Sinaguglia, Stewart Dickson, Garry Boychuk, Mike Klipina

**SESSION F5**
**CONSTRUCTION**
JOSH KERCHO
384934 – Trains to Mains: How to Relocate Three Kilometers of Water Main in Preparation for Light Rail in Downtown Tacoma, WA
Ali Polda
387106 – Emergency Stabilization of 84-inch Chapman Raw Water Pipeline Crossing the South Sulphur River, Greenville, Texas
Jeff Hogan, Sam Marston, Ben Stephens, Dave Burkart
385445 – Emergency Pipeline Rehabilitation Ensures Raw Water Supply to Domtar Paper Mill
Robert Cullwell, Steve Nipper, Michael Fleury

**SESSION G5**
**DIVINING ROD ON STEROIDS**
RICARDO VIEIRA
386810 – Transmission Pipeline Route Analysis to Support Growing Water Demand
Daniel Huffines, Chris Leathers
368180 – Why Are These Record Drawings So Inaccurate?
Roger Beiler

**SESSION H5**
**SWIFT SOLUTIONS**
DANIEL TOFT
386678 – Who are you going to call? On-Call Contracting for Large Diameter Water Line Repairs
Gregory Henry, James Wilson, Benjamin McCray
375207 – Urgent Need Drives Record Completion of 42-Inch Pipeline in Flint, Michigan
Kyle Couture, Matt Rayson
384280 – Understanding Hot Tapping and Plugging As An Effective Procedure for Relocation, Repair or Modification of Water Infrastructure When Uninterrupted Operation is Necessary
Charles Herckis

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3:30 p.m.–4:30 p.m. Networking Break in Exhibit Hall
### TECHNICAL PROGRAM – TUESDAY, JULY 17

**4:30 p.m.–5:30 p.m.  Concurrent Technical Sessions**

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**SESSION A6**

**BIG THINGS**

ANDREW SNEED

398921 – Design, Manufacture and Microtunnel Construction Using Wet Retrieval of the 108-Inch Diameter Low Level Outlet at NYC’s Gilboa Dam

Everette Knight, Rich Mielke, Emory Chase, Leszek Glodkowski

389194 – Holistic Transient Analysis of a Large Pressure Zone

Eppo Eerkes

**SESSION B6**

**LARGE DIAMETER**

MATT GAUGHAN

387105 – Sustainable Construction for Large Diameter Steel Pipeline on the Integrated Pipeline Project

Jonathan Shirk

389862 – Large Diameter Feedermain Takes Advantage of Groove Technology

Chris Sundberg

**SESSION C6**

**PANEL**

ROBERTS MCMULLIN

500 000 – Fort McMurray Wildfire Emergency Response and Water System Recovery

Jason Vanderzwaag

**SESSION D6**

**MODELING**

BRIAN BALL

388391 – Experimental Study and Numerical Simulation of Three-Edge Bearing Test of Large Diameter Prestressed Concrete Cylinder Pipes

Mehdi Zarghamee, Mohammadreza Moharrami Gargari

359837 – Condition Assessment of Concrete Bar-Wrapped Cylinder Pipe, The Next Phase of San Diego County Water Authority’s Asset Management Program

Martin Coghill, Nathan Faber, Andi Corrao, Chris Garrett

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<td>Duane Strayer</td>
<td>Doug Jenkins</td>
<td>Mark Mihm</td>
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**SESSION E6**

**DESIGN TOOLS AND INNOVATION**

RICHARD SUKUT

386772 – Strike While the Iron is Hot – An “All of the Above” Approach Blends Rehabilitation and Renovation with Reactive Replacement

Peter J. Pfister, Michael J. Mitchell

**SESSION F6**

**MICROTUNNELLING**

CHARLES MARSH

386919 – Microtunnel Crossing of Alberta’s Busiest Highway

Craig Pass

374161 – From Pipe Ram to Microtunnel – How Owner and Contractor Worked Together

Erik Waligorski, Ron Speer, Ken Van Den Bergh, Greg Hill

**SESSION G6**

**O&M AND AM IN THE PM**

JASON LUEKE


Mike Brannon, Niall Robertson

385342 – Ahead of the Curve: Lake Huron & Elgin Area Water Systems Develop their Asset Management Program

Billy Haskander, Andrew Henry, Heather Edwards

**SESSION H6**

**ETHICS IN CIVIL ENGINEERING AND CONSTRUCTION**

MARK WOODSON

This session reviews the ethical principles that guide professional engineers, and provides a sampling of real-life case studies that illustrate the importance of honoring ethical principles in the practice of engineering.
| SESSION A7 | SESSION B7 | SESSION C7 | SESSION D7 |
| UNIQUE SOLUTIONS | MODELING | CASE STUDIES | INSPECTIONS |
| JACKIE SIU | TOBY WEICKERT | MICHAEL FLEURY | IAN LANCASTER |

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| TRACK E | TRACK F | TRACK G | TRACK H |
| Construction & Rehabilitation 1 | Construction & Rehabilitation 2 | COATING AND LININGS | Multidiscipline |
| Murat Engindeniz | Duane Strayer | ANDREW SPARKS | Mark Mihm |
| GRAND EAST | GRAND CENTRE | | GRAND WEST |
| SESSION E7 | SESSION F7 | SESSION G7 | SESSION H7 |
| CONSTRUCTION | COATING AND LININGS | HISTORY LESSONS | BETTER CHOICES |
| WILLIAM ELEDGE | ANDREW SPARKS | ARTHUR SINCLAIR | MIKE BRANNON |
| 386771: Dig Indy Tunnel System – Fall Creek Collection Consolidation Sewer Phase 1A Maceo Lewis, Jeff Glover, Nick Maynard | 386879: - A Rational Approach to Designing Spray-Applied Manhole Rehabilitation Products in Non-Circular Applications Adam Braun, Christopher Macey | 381087: – DC Water At Work: Using a Composite Liner Design to Rejuvenate the Service Life of Large Sewer Tunnels Steve Bian, Renni Zhao, Mandy LeBlanc, Qi He | 381867: – Trans-Basin Pipelines as a Solution to Water Resources – A Network for Water Resilience and Economic Vitality Maury Gaston |

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7:30 a.m.–8:00 a.m. Continental Breakfast
8:00 a.m.–9:30 a.m. Concurrent Technical Sessions
9:30 a.m.–10:00 a.m. Networking Break
TECHNICAL PROGRAM – WEDNESDAY, JULY 18

10:00 a.m.–11:30 a.m. Concurrent Technical Sessions

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Planning & Design 1  
Jeff Heidrick  
CITY HALL

**SESSION A8**  
TESTING  
ALAN SWARTZ
Olena Gordiyenko, Simon Hopton, Martin Prattichard, Mark Belanger, Seamus Tynan, Brandon Gorrie

379823 – Measurement of Ground Heave due to Horizontal Borehole Instability During Horizontal Directional Drilling Tests in Sand  
Haitao Lan, Ian Moore, Dong Wang

372583 – Evaluation of Thin-Walled Steel Fiber Reinforced Concrete Pipes Performance Using Three-Edge Bearing Test  
Fouad Al Rikabi, Shad Sargand, Husam Hussein, John Kurdziel

**TRACK B**
Planning & Design 2  
Shaoqing Ge  
DOMINION NORTH

**SESSION B8**  
DYNAMIC THINGS  
BRENT KEIL
386696 – Pipe Dynamic Load Analysis for Transient Multiphase Flow  
David Cheng, Mohan Rathinasabapathy, Sukanta Bhattacharjee

388233 – Understanding Pneumatically-Induced Hydraulic Surges and Geysers In Sewers  
Anthony Margevicius

385645 – Overview of the Geometric Parameters of a Press-Fit: Experimental and FEA Analysis of Steel Pipe Joint  
Urso A. Campos, David Hall, John Matthews, Chris Morgan, Shaurav Alam, Hadi Baghi

**TRACK C**
Condition Assessment 1  
Roberts McMullin  
DOMINION SOUTH

**SESSION C8**  
DISTRIBUTION AND TRANSMISSION MAINS  
FELIPE PULIDO
385289 – Forensic Study of a 16-Inch PVC Water Pipe Failed During Tapping  
Shaoqing Ge, Suzanne Chiavari, Dave Hughes

389998 – Air Pocket Detection in Water and Waste Water Conveyance Pipelines Using Inverse Transient Analysis  
Ahmad Malekpour, Yuntong She

385451 – When Reliability Fails: Emergency Repairs to a 50-Year-Old Aqueduct  
Nick Lester, Michael McBee

**TRACK D**
Condition Assessment 2  
Felipe Pulido  
PROVINCIAL NORTH

**SESSION D8**  
SEWER AND STORMWATER  
LOUIS RAGOZZINO
387622 – Qualitative Investigation of Microbially Induced Corrosion of Concrete in Sanitary Sewer Pipe and Manholes  
Vinayak Kaushal, Mohammad Najafi, Johnny Love

383289 – Advanced Asset Management for Force Main and Gravity Pipe Infrastructure Systems  
Berk Uslu, Sunil Sinha, Walter Graf

385705 – Consequence of Failure of Sewers (COFS) Model for Risk-Based Asset Management Using Analytical Hierarchy Process  
Greta Vladceanu, John Matthews

**TRACK E**
Construction & Rehabilitation 1  
Murat Engindeniz  
GRAND EAST

**SESSION E8**  
LINING  
WILLIAM SHOOK
387189 – Pressure Testing of CIPP Liners to Failure  
Mark Knight, George Bontus

382527 – City of Taylor Rehabilitates 60-Year-Old Cast Iron Mains via Pre-Chlorinated Pipe Bursting  
Greg Mayhew, June Baterina, Martin Scanlan

373970 – Spray in Place Pipe (SIPP): Materials Composite and Implementation Methodology for Surviving Pressure Pipe Failure  
Kent Weisenberg, Tom Iseley, Lin Li

**TRACK F**
Construction & Rehabilitation 2  
Duane Strayer  
GRAND CENTRE

**SESSION F8**  
HDD & OTHER TRENCHLESS  
JEFF LEBLANC
387127 – Evaluating Arrow Bore™ – An Engineer’s Perspective  
Michelle Macauley, David Landing

372713 – The Horizontal Directionally Drilled Installation of Dual Parallel 3220-Foot Fusible PVC Pipelines  
George Triebel, Gayleen Darting, Jose Ramirez, Janet Atkinson, Scott Hutcheson

386419 – Cast Iron Trunk Watermains in City of Toronto  
Jackie Siu

**TRACK G**
UES  
Doug Jenkins  
PROVINCIAL SOUTH

**SESSION G8**  
H2O  
ADAM BRAUN
382402 – DC Water at Work: Tackling Fast Track CIP with In-house Design of SIPP  
Steve Bian, Mandy LeBlanc, Renni Zhao

382846 – Developing a New Pressure Plane at Super Speeds  
Olivia Kerss, Daniel Stoutenburg, Roberto Sauceda

386461 – Analyzing Conflicts over Water Extraction from Great Lakes of North America through Game Theory Approaches  
Sevda Payganeh, Mark Knight, Carl Haas

**TRACK H**
Multidiscipline  
Mark Mihm  
GRAND WEST

**SESSION H8**  
INNOVATIVE THINGS  
GARY THOMPSON
380545 – New Developments in Multi-Sensor Condition Assessment Technologies for Large Diameter Pipe Infrastructure  
Csaba Ékes

386628 – Multi-Sensor Inspection Comes to Salt Lake City, Utah  
Doug Jenkins, Emma McGowan, Derek Velarde, Mark Wade

389028 – Large Diameter Couplings for Seismic Conditions  
Chris Sundberg
Bridging the gap
between idea + achievement

Join us at ASCE Pipelines 2018

Long-term Weathering Effects of Pipeline Coatings
Jose Peña, NACE
Monday, July 16, 10:00–11:30 a.m.

Between a Track and a Hard Place — Thrust Restraint Alternatives in a Constrained Location
Keith R. Bushdiecker, PE
Monday, July 16, 1:00–2:30 p.m.

Asset Renewal Forecasting for Water Main Replacement Program
Derek Gardels, PE, ENV SP
Monday, July 16, 1:00–2:30 p.m.

Pure Water Branched Subaqueous Diffuser Pipeline
Badri Badriyha, PhD, PE
Monday, July 16, 4:00–5:30 p.m.

Benefits of Performance-Based Large Diameter Pipeline Rehabilitation
Samantha S. La Hée, PE
Monday, July 16, 4:00–5:30 p.m.

Pipe Considerations for Deep St. Louis LMRDP CSO Tunnel Dewatering Pump Station
Cale J. Underberg, PE
Tuesday, July 17, 2:00–3:30 p.m.
THE OFFICIAL CONFERENCE HOTEL
Sheraton Centre Toronto Hotel
123 Queen Street West, Toronto, ON M5H 2M9
Sheraton Centre Toronto Hotel is a CAA/AAA Four Diamond hotel near all of Toronto’s attractions and connected to the financial and entertainment districts by way of the PATH, a 16-mile underground network of shops and services. Shopping, Mirvish Toronto theatres, world-class dining at downtown Toronto restaurants, and Toronto museums are steps away.

PARKING
Valet parking is available for $50 CAD a day. There are a number of self-parking options around our hotel as well. To find out more, please visit: https://parking.greenp.com/find-parking/?a=123+Queen+St.+West

TRAVEL
UP Express Service
http://www.sheratontoronto.com/en/up-express-service
Union Pearson Express (UP Express) connects Toronto Pearson International Airport to the heart of downtown in just 25 minutes. Trains depart every 15 minutes between 5:30 a.m. and 1 a.m. daily.

International Travel
To visit Canada, all travelers must meet some basic requirements:
• Have a valid passport;
• Have no criminal or immigration-related convictions;
• Explain to an immigration officer that the purpose of your visit is to attend a conference;
• Explain to an immigration officer that you will leave Canada at the end of your visit and have enough funds for your stay.

CANCELLATION
If your visa application is denied, please inform ASCE in writing that you wish to cancel your registration. You have to attach a copy of your visa denial.

A full refund will be issued if the cancellation notice is received by the registration refund deadline of June 27, 2018. No refunds will be made for cancellation requests received after that date. Send cancellation requests to registrations@asce.org or fax to +1 (866) 902-5593.

Please file your visa paperwork as far in advance as possible to be eligible for a refund.
ASCE cannot intervene on behalf of the invitees with the Government of Canada by fax, phone, surface mail, or email.

CITY INFORMATION
http://www.seetorontonow.com

ADA COMPLIANCE
Sheraton Centre Toronto Hotel is fully accessible to the disabled. If you require special assistance at the conference, please submit a written description of your requirements with your registration form or email registrations@asce.org before Wednesday, June 27. While ASCE will make every effort to meet the needs of the disabled, accommodations cannot be guaranteed without prior notification.

ASCE BOOKSTORE
The bookstore is a great opportunity to browse through the many new and classic titles on display covering all topics in civil engineering.

HOURS:
• Sunday, July 15: 2:00 p.m.–7:00 p.m.
• Monday, July 16: 7:00 a.m.–4:30 p.m.
• Tuesday, July 17: 7:00 a.m.–4:30 p.m.

ATTIRE
The dress code for the Conference is business casual (i.e., slacks, casual dresses) to business attire (i.e., neckties, business suits). Meeting room temperatures will vary, so wear layered clothing to ensure your personal comfort. We also recommend attendees wear comfortable shoes. Please note that certain events may have specific details on attire, and you should refer to the description of that event for more information.

BADGE POLICY AND RIBBONS
Your name badge is your admission to the Conference. Please wear your badge at all times while in the Sheraton Centre Toronto Hotel. Tickets are required for the pre-conference workshops, meals, and special events. Where tickets are required, please be sure to bring your tickets with you to each event as you will not be admitted without a ticket. Ribbons will be available at the Registration desk. ASCE recommends you remove your badge when leaving the conference hotel.

CONFERENCE PROCEEDINGS
This year, the conference proceedings will be available ONLINE only. One copy is included with each full registration. Additional copies may be purchased for $100. To access your copy, follow the instructions on the Proceedings Retrieval Information Card you will receive with your registration packet. To purchase a copy after the conference, call ASCE at (800) 548-ASCE (2723), send a fax to (703) 295-6211, or order online at www.asce.org/publications.
Sponsored by: Northwest Pipe Company

MEETING ROOM OVERTURNING
ASCE will make every effort to schedule popular events in rooms large enough to accommodate anticipated attendance. Since many events are extremely popular, it is wise to select alternative events as you plan your conference schedule. ASCE and the conference hotel are REQUIRED to follow local fire regulations and may ask participants in rooms filled to capacity to choose another event.

NO SMOKING POLICY
ASCE supports a “No Smoking” policy. Smoking is prohibited in the Sheraton Centre Toronto Hotel, and all venues hosting ASCE events.
POST-CONFERENCE EVALUATION
A Post-conference survey will be sent electronically to all attendees after the event.

PROFESSIONAL DEVELOPMENT HOURS (PDHS)
You may earn PDHs, which are nationally recognized units of record, by attending conference technical sessions and short courses. Please note there are differences from state to state in continuing education requirements for professional engineering licensure. ASCE follows NCEES guidelines on continuing professional competency. Get details on your state’s requirements by going to www.ncees.org/about.

Within 30 days of the end of the conference, the session information will be uploaded into the MyLearning system. You will receive an email from the conference registration system with a link and detailed instructions on how to access MyLearning and to update your session attendance. By accessing the MyLearning system for this conference, you automatically Agree and Certify you attended the selected sessions. The system will remain open for 365 days from the receipt of the registration email to allow you time to make any adjustments and print your certificate and transcript. After that 365-day mark, you will need to contact ASCE Customer Service at registrations@asce.org or (800) 548-2723 to modify your conference attendance information.

Included with your welcome packet, you will receive a badge with your name and a bar code specific to your registration. Before you enter the room for a Pre-Conference Workshop or a Technical Session, you must scan your bar code in order to receive credit. The scanner will acknowledge a successful recording of your name for the specific session. We strongly recommend you scan your badge at the beginning of each session to eliminate any challenges and/or lines later.

Please note that the only way to receive PDH credits is if you scan the bar code located on the back of your conference badge at the start of each session.

RECORDING OF SESSIONS
Video or audio recording of any educational session is strictly prohibited without prior written permission from both ASCE and the session presenter(s).

RELEASE/WAIVER/SPECIAL ASSISTANCE
Photograph Release: By submitting the Registration form, I hereby release any photographs that may be incidentally taken of me during these events by ASCE to be used for any purpose.

Liability Waiver: I agree and acknowledge that I am undertaking participation in ASCE events and activities at my own free and intentional act, and I am fully aware that possible physical injury might occur to me as a result of my participation. I give this acknowledgement freely and knowingly that I am, as a result, able to participate in ASCE events, and I do hereby assume responsibility for my own well-being. I also agree not to allow any other individual to participate in my place.

ATTENDEE PACKETS
All attendees will receive their name badges and any tickets ordered at the ASCE Registration Desk, Sheraton Centre Toronto Hotel Concours Level, during registration hours. Early-bird and Advance registrants should present the official ASCE registration receipt to on-site registration staff to obtain conference materials.

ON-SITE REGISTRATION HOURS
(Subject to change)

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MOBILE APP
Be sure to download the Pipelines 2018 Conference App for the latest program information and important details you won’t want to miss.

Sponsored by:

RECYCLE YOUR NAME BADGE HOLDER!
Please help ASCE & Pipelines stay “green” by leaving your name badge holder in the registration area when you leave the conference. If you are concerned about privacy, you are welcome to remove your name from the holder and take that with you.

PROGRAM AND SESSION CANCELLATION
ASCE reserves the right to cancel programs and/or sessions because of low registration. In the unlikely event of a cancellation, all registrants will be notified and will receive a full refund, if applicable. Programs and Sessions are subject to change, and ASCE reserves the right to substitute a program, session, and/or speaker of equal caliber to fulfill the educational requirements.

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<td>Sipp technologies, LLC</td>
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<td>Skyline Steel</td>
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<td>Smartcover Systems</td>
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<td>Structural Technologies</td>
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<td>CB4</td>
<td>Thompson Pipe Group</td>
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<td>Trenton Corporation</td>
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<td>TT Technologies Inc</td>
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<td>U.S. Pipe</td>
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<td>Uni-Bell PVC Pipe Association</td>
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<td>Victaulic</td>
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<td>136</td>
<td>Vortex</td>
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**EXHIBIT HALL FLOOR PLAN**

### EXHIBIT HOURS

**SATURDAY, JULY 14**
- Decorator Move-in: 9:00 a.m.–5:00 p.m.

**SUNDAY, JULY 15**
- Exhibitor Move-in: 8:00 a.m.–4:00 p.m.
- Welcome Reception: 5:30 p.m.–7:00 p.m.

**MONDAY, JULY 16**
- Exhibit Hours: 9:00 a.m.–4:00 p.m.
- Morning Networking Break: 9:00 a.m.–10:00 a.m.
- Lunch: 11:30 a.m.–1:00 p.m.
- Afternoon Networking Break: 2:30 p.m.–4:00 p.m.

**TUESDAY, JULY 17**
- Exhibit Hours: 7:30 a.m.–4:30 p.m.
- Continental Breakfast: 7:30 a.m.–8:30 a.m.
- Morning Networking Break: 10:00 a.m.–11:30 a.m.
- Afternoon Networking Break: 3:30 p.m.–4:30 p.m.
- Move-Out Hours: 4:30 p.m.–8:30 p.m.
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Our sessions & speakers

- **Session B1, Monday July 16, 2018**
  A New Source of Water for the UK’s Second Largest City
  Steve Mackellar

- **Session F2, Monday July 16, 2018**
  Hurricanes, Conquistadors, and Endangered Species - The Unique Challenges of Under-Bridge Pipe Replacement on Florida’s Historic Coast
  Grant Misterly, Christine Ellenberger

- **Session A4, Tuesday July 17, 2018**
  Not All Projects are Created Equal - The King County Mercer Island Project Goes From 945 Alternatives to One
  James Chaa

- **Session G4, Tuesday July 17, 2018**
  Olmsted Flowline Seismic Evaluation and Retrofit
  Mitchell Dabling

- **Session E5, Tuesday July 17, 2018**
  Old Pipe, New Tricks: A Pragmatic Approach to Partially Deteriorated Pipeline Rehab Design
  Adam Murdock, Dan Buonadonna

- **Session G5, Tuesday July 17, 2018**
  Why Are These Record Drawings So Inaccurate?
  Roger Beiler

- **Session G7, Wednesday July 18, 2018**
  Thrillume Reservoir - Past, Present, and Future, 130 Years of Pipeline Engineering
  Sean Greenwood

- **Session F8, Wednesday July 18, 2018**
  Evaluating Arrow Bore - A Case Study of a Pilot Project in Florida
  Michelle Macauley

- **Session H8, Wednesday July 18, 2018**
  Multi-Sensor Inspection Comes to Salt Lake City, Utah
  Emma McGowan

Times/Dates listed are from the preliminary program. Please check the final technical program.

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Our special thanks go to Michael Cook for allowing us to feature his photographs of Toronto underground infrastructure.

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KEY DATES
Abstracts Due: August 24, 2018
Notification of Acceptance: October 1, 2018
Draft Papers Due: November 30, 2018
Registration Opens: January 16, 2019

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